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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/571,267

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Hans-Juergen Rostalski

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

COLLINS, DARRYL J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/571,267	Applicant(s) ROSTALSKI ET AL.	
	Examiner DARRYL J. COLLINS	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-52 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 32-38 and 43-52 is/are rejected.
- 7) ☒ Claim(s) 39-42 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02122007</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on February 12, 2007 has been considered by the examiner.

Claim Rejections - 35 USC § 112

Claims 36-38 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent claims 36-38 make use of vague and nondescript terms such as "similar", "vicinity", "large" and "similarly", respectively. The use of such terms renders the claims indefinite in that one of ordinary skill would not readily understand the metes and bounds of the claimed invention. For example, by using "vicinity" in claim 37, the double aspheric lens could be arranged within two lens elements of the field plane, within 10 millimeters of the field plane or within .5 millimeters of the field plane.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 32-36 and 43-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Schuster et al (U.S. Patent Number 6,646,718).

Schuster et al teaches an illumination system for microlithography projection exposure system (column 4, lines 33-49) comprising and optical imaging system (Figure 5) for imaging an objective field (Figure 5, element O) arranged in an object plane of the imaging system into an image field arranged in an image plane of the imaging system (Figure 5, element O'), the optical imaging system including a plurality of lenses that are arranged between the object plane and the image plane (Figure 5, elements L401-L430) and in each case have a first lens surface and a second lens surface (Figure 5 and Table 4) wherein at least one of the lenses is a double aspheric lens where the first lens surface and the second lens surface is an aspheric surface (Table 4, element L425) as claimed in independent claim 32.

Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 32, and further teaches such an optical system wherein the first lens surface and the second lens surface of the double aspheric lens are shaped to be substantially symmetrical relative to one another (Table 4) as claimed in dependent claim 33.

With respect to claim 34, again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 32, and further teaches such an optical system wherein the first lens surface and the second lens surface of the double aspheric lens have substantially the same surface description with reference to curvature and aspheric constants (Table 4).

With respect to claims 35 and 36, once again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 32, and further teaches such an optical system wherein the first lens surface and the second lens surface of the double aspheric lens are shapes such that they can substantially be transformed into one another by means of an orthotomic projection (Table 4) as claimed in dependent claim 35 and wherein the surfaces are similar aspheres in the sense that they can be testes with the same test optics (Table 4) as claimed in dependent claim 36.

With respect to claims 43 and 44, still again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 32, and further teaches such an optical system wherein the double aspheric lens is shapes as a meniscus lens wherein the meniscus has an image side convex surface (Figure 5, element L425) as claimed in dependent claims 43 and 44.

Schuster et al teaches an optical imaging system for microlithography projection exposure system (column 4, lines 33-49) for imaging an objective field (Figure 5, element O) arranged in an object plane of the imaging system into an image field arranged in an image plane of the imaging system (Figure 5, element O') comprising, a plurality of lenses (Figure 5, elements L401-l430) having a first aspheric lens surface and at least one second aspheric lens surface (Figures 2-9 and Tables 1-8) wherein the first lens surface and the second lens surface least one of the lenses is a double aspheric lens where the first aspheric lens surface and the second aspheric lens surface are deformed similarly (Tables 1-8) in such a way that they can be tested with the same test optics as claimed in independent claim 45.

Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 45, and further teaches such an optical system wherein the first aspheric lens surface and the second aspheric lens surface have substantially the same surface description with reference to curvature and aspheric constants (Table 4) as claimed in dependent claim 46.

With respect to claim 47, again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 45, and further teaches such an optical system wherein the first aspheric lens surface and the second aspheric lens surface are shapes such that they can substantially be transformed into one another by means of an orthotomic projection (Table 4).

With respect to claim 48, once again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 45, and further teaches such an optical system wherein the first aspheric lens surface and the second aspheric lens surface are formed on the same lens, whereby a double aspheric lens is formed (Table 4, element L425).

With respect to claims 49 and 50, still again Schuster et al continues to teach all of the claimed limitations as outlined above with respect to claim 45, and further teaches such an optical system wherein the first aspheric lens surface and the second aspheric lens surface are formed on different lenses (Table 4, elements L401 and L429) and at least one other optical element surface is arranged between the first aspheric lens surface and the second aspheric lens surface (Table 4, elements L402 -L428).

With respect to claims 51 and 52, Schuster et al again teaches all of the claimed limitations as outlined above with respect to claim 45, and further teaches such an optical system wherein the imaging system is projection objective for imaging a pattern of a mask arranged in

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an object plane of the projection objective into the image plane of the projection objective and wherein the imaging system is a subsystem integrated in an illumination system of a microlithography exposure apparatus (column 4, lines 33-49).

Allowable Subject Matter

Claims 39-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. §102 or §103 would be proper. Although the prior art teaches an illumination system for microlithography projection exposure system comprising and optical imaging system for imaging an objective field arranged in an object plane of the imaging system into an image field arranged in an image plane of the imaging system, the optical imaging system including a plurality of lenses that are arranged between the object plane and the image plane and in each case have a first lens surface and a second lens surface wherein at least one of the lenses is a double aspheric lens where the first lens surface and the second lens surface is an aspheric surface, the prior art fails to teach such a system meeting the structural requirements as claimed in dependent claim 39, a system having the linear magnification as claimed in dependent claim 40, a system wherein the double aspheric lens is positioned within the system as claimed in

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dependent claim 41, nor a system wherein the double aspheric lens is physically constructed as claimed in dependent claim 42.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARRYL J. COLLINS whose telephone number is (571)272-2325. The examiner can normally be reached on 6:30 - 5:00 Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Darryl J. Collins/
Primary Examiner
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22 July 2008